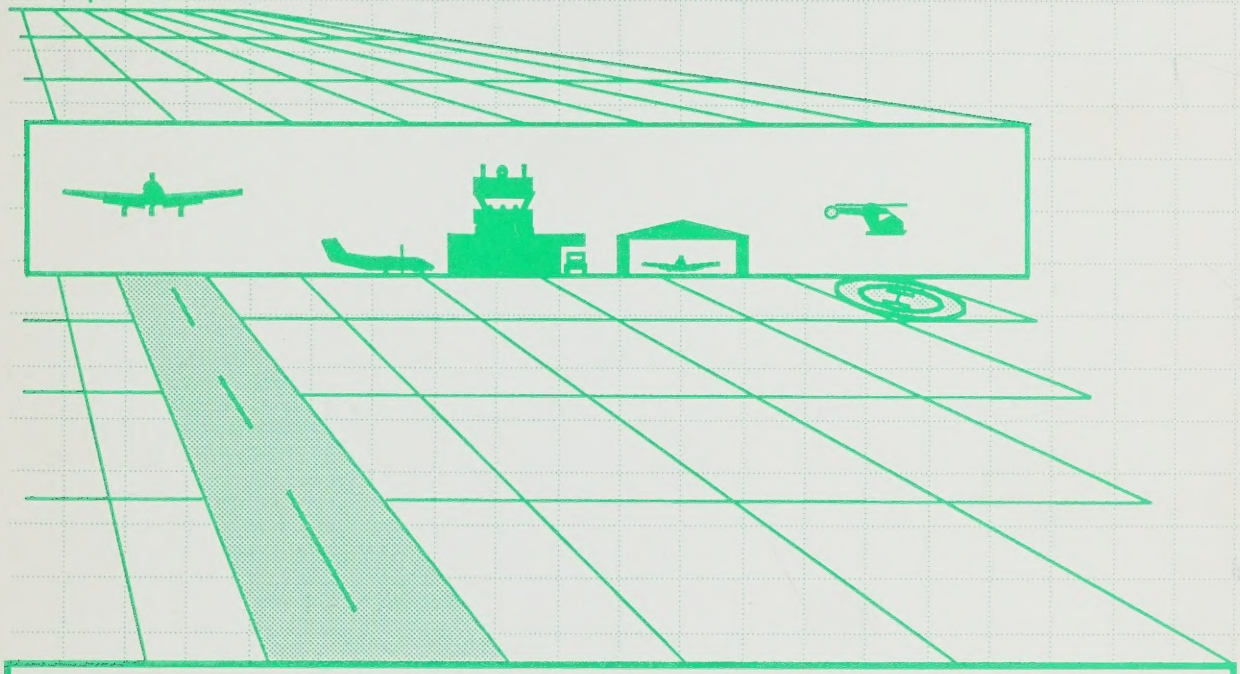
Ontario
Ministry
of
Transportation



A GUIDE TO MUNICIPAL AIRPORT DEVELOPMENT

AVIATION OFFICE — PROVINCIAL TRANSPORTATION DIVISION

A GUIDE TO
MUNICIPAL AIRPORT DEVELOPMENT

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MUNICIPAL AIRPORT DEVELOPMENT

Ministry of Transportation
Aviation Office
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FOREWORD

This booklet is one of a number of publications on the development, operation and maintenance of airports in Ontario. For further information contact:

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INTRODUCTION

Airport development is a lengthy and complex process. The Ministry of Transportation Ontario, through the Municipal Airports Program, provides advice and financial assistance in the planning, design, construction, operation and maintenance of airports owned and operated by municipalities throughout Ontario.

The purpose of this booklet is to provide information and guidance to municipalities considering the development of a new or existing public airport. It is important to recognize that every situation is unique and therefore not all sections of this booklet will apply to every project.

JURISDICTION AND RESPONSIBILITY

Airport Ownership

Airports are owned and operated by all levels of government (federal, provincial, municipal) and the private sector. Attachment A describes the division of ownership of the 100 or so publicly owned airports in Ontario.

There are also several dozen airports that are privately owned and operated and, in addition, there are literally hundreds of other aerodromes located throughout the province. (Note: An aerodrome is simply a place used for the landing and take-off of an aircraft; an airport is an aerodrome which has been issued with an airport certificate.)

Transport Canada

Transport Canada is responsible for the national air transportation system and for ensuring its safe operation. Transport Canada has sole jurisdiction over aviation regulatory matters with regulations directed primarily towards the safety of aircraft (e.g., airport geometric standards, runway conditions, obstruction zoning, etc.). Transport Canada is also responsible for the provision of air navigation aids, aviation communications, and weather data, air traffic services and ensures the security of the national air transportation system. Transport Canada is also responsible for the certification of airports which qualify and which meet requirements as specified in its Aerodrome Standards & Recommended Practices publication (TP 312).

Ministry of Transportation Ontario

The Ministry, through the provincial Municipal Airports Program, provides technical guidance and financial assistance to airports owned by municipalities. Subsidy assistance of 80% is provided for the development of basic facilities with 50% subsidy provided for other infrastructure. Subsidy assistance is also provided to assist in defraying the annual cost of maintaining and operating airport facilities.

Other activities by the Ministry in support of municipal airport development include:

- monitoring and influencing federal initiatives and policies in airport matters;
- monitoring air carrier services and requirements;
- publication of promotional material such as the Ontario Airports map, the 'See Ontario by Air' map and the Ontario Airports video;
- provision of highway direction signs for airports;
- technical involvement in such matters as promoting the use of Loran-C navigation;
- Publication of technical material to assist in planning, design, construction, operation and maintenance of airports.

Municipal Responsibility

The municipality's role is to plan, construct and operate its airport according to the regulatory requirements of Transport Canada and in compliance with conditions under which financial assistance is provided by the provincial government.

Specific areas of responsibility are:

- deciding the extent of facilities and services to offer, based on benefits to be derived;
- determining the most efficient form of management for the operation of the airport;

- establishing and carrying out policies for the maintenance and operation of the airport in accordance with local requirements (maintenance and operating standards are not regulated by Transport Canada unless related to safety - policies and standards for Transport Canada owned airports do not apply to other airports).

The owner of a municipal airport is not responsible for:

- the operation of aircraft or commercial air services;
- provision of non-public facilities;
- provision of navigational aids, ground-to-air communications or aviation weather services (unless otherwise decided by local policy.

Other Agencies

There are many other agencies which have or may have some interest in the development or operation of an airport. Some examples of aviation related agencies include:

- Canadian Aviation Safety Board (CASB);
- National Transportation Agency (NTA);
- Department of Communications (DOC);
- Atmospheric Environment Services (AES);

Airport Organizations

Nearly all owners of municipal airports and a number of owners of private airports are members of the Airport Management Conference of Ontario (AMCO). This organization has been formed to represent the interests of airport owners and operators in Ontario.

All provincial governments and the territories are members of the Roads and Transportation Association of Canada (RTAC) - Aviation Management Committee. This organization is the forum whereby provincial consensus on aviation matters can be developed in response to federal policies and initiatives.

AIRPORT DEVELOPMENT IN ONTARIO

The present day public airport system in Ontario is a result of a number of national or provincial actions and local initiatives.

Along with the introduction of licensing in the 1920's, the federal government has taken the lead role in the development and operation of airports throughout the country. Historical highlights influencing airport development include the formation of Trans Canada Airlines (now Air Canada) in the 1930's with the necessary support infrastructure (i.e., airports constructed at 160 km intervals), and the construction of many military airports in the 1940's in support of the British Commonwealth Air Training Program.

In 1968, the province became involved in airports with its "Highways in the Sky" program. This program enabled the province to provide assistance to municipalities and to develop airports at Indian settlements in remote northern Ontario. Most airports in northern Ontario are a direct result of this program.

Many of today's municipal airports in southern Ontario are former military airports. The newer municipal airports (over the last 2-3 decades) have been located principally at former privately owned airport sites.

CHARACTERISTICS OF MUNICIPAL AIRPORTS

Each airport is unique in terms of facilities, services, aircraft/airport activity and methods/forms of maintenance, operation and management. Reasons for this would include the size of the service area population, the proximity to other airports, historical development, local attitudes, etc.

Basic physical characteristics of a municipal airport constructed to meet present day needs (and in many cases future needs) are:

- one paved and lighted runway 1070 m to 1200 m in length with a width of 23 m or 30 m;
- an aircraft parking apron of 7500 sq. m area with an additional tie-down area of similar size;
- connecting taxiways;
- access road and car park area;
- terminal building of 150 to 200 sq. m. in area;
- maintenance garage - 150 sq. m.;
- aviation fuel facilities;
- utility services (well, septic, hydro, telephone);
- voice communications and meteorological equipment;
- security and perimeter fencing;
- an area for private hangar development such as T-hangars for aircraft storage or for commercial aviation services.

In a number of cases, but not all, the airport might be planned to include an extension of the runway to a length of 1350 m or 1500 m if warranted and if practical to do so. There may also be provision for a secondary runway. Appropriate setbacks and obstruction free areas for a parallel taxiway are also usually included although the actual development of a parallel taxiway is not likely to occur.

Property requirements for a typical municipal airport will usually amount to some 150 to 200 hectares depending upon geography, terrain conditions and planned expansion. Of this, a total of 5 to 7 hectares may be required

for actual paved and building areas (versus, for example, about 30 hectares required for a single runway at a large airport). The remainder of the property is required principally for the purpose of ensuring that runway strips, approach, and transitional surfaces remain obstacle free. It is therefore possible for much of this land to be used for other land uses such as agriculture, while remaining within the control of the airport authority.

For most municipal airports, the lands required to ensure obstruction free areas are usually of sufficient size to also accommodate any serious noise impacts which would otherwise occur. This, for the most part, will account for the very few noise complaints made concerning aircraft activity in the vicinity of municipal airports. Most complaints are more likely to concern the operation of noisy ultralight aircraft (which are not usually based at municipal airports) or activities at busy airports located in the vicinity of built-up areas.

The cost of airport development is typically in the order of $2 to $3 million (including in most cases the cost of property). In most cases, airports operate with annual deficits in the order of $50,000 as a result of typical expenditures of $100,000 and revenues of $50,000 (revenues are principally from the sale of aviation fuel). The actual deficit range in some cases is zero or close to zero; in a few other cases, however, the deficit exceeds $100,000.

Airports are generally attended during advertised hours (such as 8:00 a.m. to 5:00 p.m., or from dawn to dusk) seven days a week. Airport staff consist of an airport manager, often with a full time assistant, and part time help as required. Airport staff are usually municipal employees although, in several instances, a portion or all of the airport operation and maintenance activities is contracted out.

The typical range of annual aircraft movements is from 10,000 to 20,000 (depending on the airport, actual movements vary from 1,000 to 90,000); of the total movements, probably a quarter are of an itinerant nature (i.e., aircraft which have arrived from or departed to another airport). Almost

all airports have some form of commercial air service available including charter services and/or flying training. Scheduled service is provided by carriers at most municipal airports.

Because of the extent of activity, most municipal airports do not require control towers or flight service stations which would otherwise be provided by Transport Canada. Some municipalities do provide official radio and weather services themselves although, in many cases, these may be provided by a local commercial air carrier. In almost all cases, though, the airport owner does have a unicom radio and has some basic weather equipment available for use.

FORMING AN AIRPORT ADVISORY COMMITTEE

The decision by a municipality to develop and operate an airport can have a considerable impact on the community. It is therefore important that the community be appropriately represented in both the decision to build an airport and in its subsequent development, operation and maintenance. To ensure such representation and to provide assistance to the local council, an Airport Advisory Committee should be established with representation from the aviation community, local organizations such as the Chamber of Commerce or the Economic Development Committee, the council itself, and perhaps representation from nearby municipalities.

The Airport Advisory Committee would normally be involved in the identification of the benefits of establishing an airport through to its operation and maintenance. The primary role of the Committee would be to gather information at the various stages of airport development and make recommendations to Council. As well, the Committee would normally provide advice and direction to any consultants hired to undertake airport development projects.

It is suggested that the Committee be of moderate size with perhaps seven members and be chaired by a well respected member of the community. Support staff for its operation, such as the Secretary of the Committee, should be provided by the municipality.

IDENTIFICATION OF NEED FOR AN AIRPORT

The decision to proceed with the development of a municipal airport should only be made after the transportation needs of and expected benefits to the community are clearly identified and evaluated with respect to the long term growth and development goals and objectives. A needs/benefit study that incorporates consideration of the following factors will be of use:

- o existing transportation services/facilities serving the area including the nearest local and regional airport facility;
- o probable service area and population;
- o potential airport users (such as industry and commerce, the public at large, general aviation interests, commercial aviation interests, government agencies). A survey may be undertaken to gather this information;
- o cost/time saving benefits in the use of air transportation versus other modes to other economic centres;
- o potential for attracting new business and industry;
- o activity at airports serving similar geographic/population areas.

Based on the information gathered, the municipality will be in a position to consider the appropriate role of the airport, the type of aircraft which will most likely need to be accommodated, and the type of facilities needed over the short and long term, including runway length, which probably will be required.

When the requirements are determined, the approximate cost of developing, operating and maintaining the facility should be established and the following considerations taken into account:

- o potential planning and first phase development time frame (probably a minimum of 3 to 5 years);
- o potential issues which may be encountered (e.g. approval of host municipality, acquisition of property from several owners, environmental and land use concerns);
- o options/alternatives to financing airport development.

The information gathering and documentation may be undertaken by either in-house resources or consultants. A sample terms of reference for a needs/benefit study is available from the Ministry's Aviation Office.

SITE SELECTION PROCESS

Having identified the need for and role of a local airport and concluded that the probable costs are justified by the benefits, the site selection process begins. This process consists largely of three phases - site identification, site evaluation and land assembly and approval.

The site selection process will likely be similar in most cases but it is probable that the level of effort needed to address certain subjects or issues will vary substantially from one geographic area to another. For example, in northern Ontario it is likely that emphasis would be placed on analysis of terrain and soils features while in most areas of southern Ontario, it is likely that emphasis would be placed on land assembly and land use matters.

Research and analysis activities required as part of the site selection process can frequently best be undertaken by aviation/engineering consultants specializing in community airport planning. A significant benefit of this approach is that the specialist will normally not only be aware of mandatory requirements for airport certification and land use zoning, but will also be aware of possible discretionary or alternative interpretations which are or may be available.

Information on each of the three phases follows.

Site Identification

This phase of the site selection process involves the identification of a number of potential airport sites. These sites must satisfy predetermined policy or technical constraints such as the order of runway length needed to satisfy the critical aircraft requirements of the proposed airport, the desirable orientation of the main runway to satisfy technical requirements, the geographic limits of the area to be studied and the need to be consistent with good airport planning and engineering practices.

Predominant considerations at this stage will include terrain features, soils information, the existence of significant man-made structures and land use planning and zoning. While in most cases such information will be readily available, a visual inspection of each site is essential to ensure the accuracy of the information.

The data presented to the Advisory Committee at the conclusion of the site investigation will not be exhaustive, but the Committee's general knowledge of the area should be sufficient for the Committee to determine, in its judgement, preferred sites for further consideration.

Site Evaluation

The purpose of site evaluation is to assess the merits and potential drawbacks of each of the preferred sites in an effort to determine which site or sites should be pursued in terms of property negotiations and necessary approvals.

Information which should be known for each site at this stage is whether there are any known **significant** physical or land use constraints that would preclude development of an airport with a main runway to the length/orientation desired. The comparative assessment of the sites may include:

- possible length/orientation of a secondary runway;
- possible environmental and land use impacts including those related to noise and building height limitations;
- possible extent of variance of site development costs;
- probable land assembly areas needed for both the physical development of the airport and to ensure obstruction clearance requirements for runways are met;
- convenience of location for necessary ground travel by users.

The documented information for this phase should be of sufficient detail that it will enable the Advisory Committee to prepare a shortlist of candidate sites (or select a specific site) for land assembly and approval purposes.

In some cases, it will be necessary to obtain more detailed information on a site or sites and therefore a separate preliminary design report and a separate environmental report may be required (reference the design and environmental sections of this guide).

Land Assembly and Approvals

Proceeding with land assembly and approval by a host municipality is desirable (but not always possible) prior to the final selection of a site. When preparing the shortlist of sites, consideration should be given to the number of land owners associated with each site, since generally the larger the number of land owners involved, the more complex the land assembly process.

Land assembly should consist of negotiating **options** on **all** lands needed for the first phase of development, and preferably **all** lands identified as needed for ultimate development. Options might be taken out for one or more sites. If possible, options should allow sufficient time for all necessary approvals to be obtained before they must be exercised. Often the airport site is located in another municipality and therefore cooperation is critical to ensure the success of developing such a new facility. Also, the approval by the host municipality of the airport site is essential for practical reasons such as police and fire protection, utilities, and for access road purposes. Approval efforts may be easier if a representative of the host municipality has been a member of the Advisory Committee.

For information regarding other approvals that may be required, refer to the Environmental Considerations and Land Use Planning and Zoning sections of this booklet.

AIRPORT MASTER PLANNING

Whether a municipality is undertaking the development of a new airport or expansion of an existing facility, detailed work is required to identify the long term concept involved. Sufficient lead time should therefore be allocated to this phase. Consideration should be given to the following:

- Airport development plans should be linked to the local community's goals, policies and strategies;
- Airports bring benefits and disbenefits to a community according to the perception of many concerned and affected groups, e.g.:
  - general public
  - special interest groups
  - business
  - government organizations
  - local residents
  - airport users

  The views of these groups should be taken into consideration;
- An airport provides the means for the transfer of goods and people from one mode of transportation to another. Planning should therefore take into consideration the requirements for the efficient operation of both air services and ground vehicles;
- Proposed development plans should be flexible enough to take into account potential future increases and decreases in the demand for air transportation services;
- In the case of existing airports where upgrading is desired, planning should include restoration and replacement of facilities, as airport assets must be maintained at an acceptable level of service.

This work culminates in the production of an airport master plan. The purpose of this plan is to provide overall guidance for the development of the airport. The primary functions of the plan are:

- to document the long term role of the airport as determined by the municipality;
- to graphically depict the location and dimensions of the anticipated facilities;

- to document the rationale behind planning decisions made either prior to or during the course of the master planning study;
- to identify the minimum land which must be acquired for the construction and protection of long term development;
- to identify the essential obstruction zoning and optimum land use planning and zoning criteria for lands surrounding the airport site.

The master plan report should provide:

- a description of the events and circumstances leading to the undertaking of the master plan;
- a description of the engineering and aviation characteristics of the site;
- identification of and plans for functional requirements - e.g., the "critical" aircraft for runway length and pavement structure and for other aircraft operating areas; the length, classification and geometric licensing criteria for the runway(s); the functions of related facilities and services and their probable spatial needs - e.g., apron and taxiway, terminal building, etc.;
- alternative conceptual layouts, the implications of each, and justification for the selected concept;
- estimated development costs, generally for the initial phase;
- guidance on types of land use permitted in the vicinity of the airport and technical guidance for the determination of obstruction limitation surfaces;
- drawings - Master Plan, Terminal and General Aviation Area Development Plan, Conceptual Alternatives, Obstruction Zoning Plan and, if applicable, Noise Impact Plan.

The preparation of the airport master plan can be undertaken by in-house resources or more likely will be undertaken by consultants. Normally the master planning is done with the help of a consultant because of the workload involved. Guidelines for the preparation of a master plan are available from the Aviation Office.

FACILITY PLANNING

Facility planning involves the timely initiation and processing of individual projects to create or upgrade an airport that have normally been identified in a master plan, in subsequent planning studies or other reports.

The timely initiation of projects means that sufficient lead time is allowed for planning, identification of funding, design, construction and commissioning stages.

This task is usually undertaken by the airport owner/operator.

ENVIRONMENTAL CONSIDERATIONS

Airports are the exclusive jurisdiction of the federal government and therefore provincial legislation such as the Environmental Assessment Act does not apply. Information with respect to federal environmental requirements can be obtained by contacting Transport Canada or the Environmental Protection Service of Environment Canada. Municipalities, at their discretion, may also voluntarily submit an environmental assessment document to the provincial Ministry of the Environment - further information and advice can be obtained by contacting:

Director
Environmental Assessment Branch
Ontario Ministry of the Environment
135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

For new airport development projects or for significant expansionary projects, it is virtually essential to prepare an environmental report to provide guidance with respect to making a decision to proceed with the project for input into the design and construction techniques/monitoring of the project. Such matters as drainage, noise, wildlife and vegetation, air and water quality, drainage and aquatic life, etc., would normally be addressed in the report, as well as providing a summary of other studies and decisions which have previously been made. Of particular benefit, preparation and use of the report will clearly indicate to the public the municipality's concern for the environment.

LAND USE PLANNING AND ZONING

Airports involve two types of zoning considerations - obstruction and land use.

Obstruction Zoning

Airport obstruction zoning is under the jurisdiction of Transport Canada. Obstacle limitation surfaces, which means the extent to which man made and natural objects may project into the airspace above land such as runways, are specified in Transport Canada's TP 312E - Aerodrome Standards and Recommended Practices publication. These surfaces, when legally registered, define the extent to which objects, both man-made and natural, may project into the airspace. The enactment of federal registered zoning is necessary to protect the airspace in and around an airport from the erection of structures or natural growth which could present a hazard to aviation safety.

Land Use Planning and Zoning

Airport lands are not subject to provincial land use regulations. Municipalities may choose to enact appropriate by-laws recognizing the airport but the by-laws must not attempt to control the use of airport lands (i.e. the by-law must be of a passive nature) to avoid interference with an area of federal jurisdiction.

A provincial land use policy does exist, however to protect lands in the vicinity of "major" airports based on either of Transport Canada's NEF (Noise Exposure Forecast) or NEP (Noise Exposure Projection) systems. Both systems reflect the noise produced by all types of aircraft at an airport, taking into consideration the number of flights, the duration of the noise, the time of day and the frequency components of the sound. The NEF system involves a relatively short term forecast in the range of 5 to 10 years. The NEP system represents a longer range of projection (10 to 20 years) of future operational conditions and resulting noise .

In general, the provincial policy defines areas where new housing is either prohibited, or allowed if certain noise abatement measures are included in the design.

The detailed provisions of the policy have been set out in a document entitled "Land Use Policy Near Airports" issued in March of 1978 by the former Ministry of Housing. This policy is now administered by the Ministry of Municipal Affairs. The document includes a Land Use Compatibility Table which sets out specific land uses permitted within specific areas around an airport, depending on the NEF or NEP value calculated for those areas.

The general principle underlying the provincial policy is that outdoor noise levels should govern permissible uses of a property adjacent to an airport. It is this principle that has been, and continues to be, reflected in local and regional official plans adopted by municipalities in affected areas across Ontario. Also, local zoning by-laws have similarly reflected the provisions of the provincial policy.

As described above, only those airports which have had NEF or NEP contours prepared are subject to the policy.

For more information regarding provincial policy on land use in the vicinity of airports, contact:

Office of Local Planning Policy
Ministry of Municipal Affairs
13th Floor, 777 Bay Street
Toronto, Ontario
M5G 2E5

Recommended land uses as described in Transport Canada's publication TP 1247E - Land Use in the Vicinity of Airports - may be used as a reference. The publication describes the operational characteristics of airports which may influence land use outside the property boundaries and recommends, where applicable, guidelines for land uses which would be compatible with airport operations.

AIRPORT DESIGN

Design Methods

The development or upgrading of a municipal airport usually involves a number of construction projects. The design stage of each construction project can take a few days or weeks to a year or more depending on the complexity of the project.

There are a number of ways the design can be accomplished:

a. **Off-the-shelf-purchase** - contractor's standard design meets the requirements and the product is purchased as-is or installed;
b. **Performance Specification** - The design is prepared by the contractor to meet a performance specification and usually also includes construction;
c. **In-house design** - In-house resources are used to prepare a design in sufficient detail to have the work done by in-house resources or by a contractor;
d. **No design requirement** - Certain projects, especially replacement or restoration types, may be accomplished without design;
e. **Architectural/Engineering Consultant** - The design of more complex projects may be best accomplished by engaging an Architectural/ Engineering consultant who has the special expertise required for the project. The extent of services to be provided must be defined.

Design Considerations

It may be advantageous on some complex projects to split the design into two phases:

- Preliminary design to establish functional layouts and budget cost estimates.
- Final design, including the preparation of contract documents, for tendering.

Sufficient time should be allowed for the design stage, taking into consideration that reviews may be required by the different agencies having jurisdiction or funding involvement.

Consultant Selection

The selection of an Architectural/Engineering consultant may be one of the most significant decisions leading to the successful completion of a complex project. While each airport authority may determine its own consultant selection procedures, some form of competitive process is generally expected by the public.

The architectural/engineering consultant may be selected by:

a. **Direct Appointment** - This method is most appropriate for routine or small projects. The decision is based on a consultant's reputation and familiarity with the type of work involved. A rotation method may be used to award projects over time to various qualified consultants..

b. **Formal Selection** - This selection procedure may be required for projects that are unique, complex and for which additional information is required to make a decision. The following is a typical series of steps that are normally taken:

- o prepare Terms of Reference
- o prepare a list of qualified consultants and request letters of interest
- o shortlist candidates
- o request detailed proposals
- o analyze and rate proposals
- o select preferred consultant(s)
- o execute an agreement

Among the factors to be considered in the selection of the preferred consultant are:

- ability
- qualifications and experience
- personnel assigned to the project
- local knowledge
- fees

In looking for appropriate consultants, assistance is available from a number of sources. The proponent may contact another municipality which has retained a consultant for similar work. The Aviation Office has information available on consultants employed by municipalities on a variety of airport projects. Finally, professional and municipal organizations can often supply information on consultant firms and their areas of expertise.

For more information on the use and hiring of consultants, reference may be made to the following publications:

- the Municipal Engineers' Association and Consulting Engineers of Ontario publications: Recommended Methods of Selecting a Consulting Engineer; "Agreement for Professional Consulting Services.

- the Ministry of Municipal Affairs' publication, When and How to Use Consultants Effectively

AIRPORT CONSTRUCTION

Methods

The construction stage of the project is important to the overall success of the project.

The following construction methods may be considered:

a. **Requesting Quotations** - A number of contractors prepare quotations based on an understanding of what is required;
b. **In-house Resources** - In-house trades may be directed to undertake a project as per the design or other instructions;
c. **Hiring Day Labour** - Tradesmen may be hired to work as per direction on site;
d. **Tender and Award of Contract** - This method is used for most large projects. The selection is usually made on low bid.

Construction Considerations

- Whichever method is selected, it is important that proper supervision be available.
- Day labour may be used in combination with in-house resources.
- If a construction contract is located on an active airport, public and aircraft safety must be a primary concern.

Provincial Municipal Airport Program

The Municipal Airports Program, administered by the Aviation Office, provides financial assistance for the planning, design, construction, operation and maintenance of municipal airports. Municipalities who are eligible for assistance and have entered into an airport development agreement with the Ministry, receive financial support in the form of subsidies through the Development Subsidy Program and the Operations and Maintenance Subsidy Program.

The Development Program is based on the principle of cost sharing with eligible municipalities. The Program provides funding for most of the facilities, equipment and other necessities required to construct, modify or expand a municipal airport. For basic airport infrastructure items, the rate of subsidy is 80% with the remainder paid by the municipality. For non-basic items, which are not considered to be essential for a "local" airport operation, the subsidy level is 50%.

Under the Operations and Maintenance Program, operating subsidies are provided to ensure a standard of airport maintenance which not only meets the minimum standards required by Transport Canada for certification purposes, but which is also consistent with the level of service normally expected by the community or the region it serves. Approved maintenance items are subsidized at the rate of 50% of the annual operating deficit (i.e., the difference between operating costs and revenues) up to an annual ceiling which varies according to the nature and volume of traffic handled at individual airports.

Other Sources of Assistance

In addition to the subsidies provided through the Municipal Airports Program, other federal and provincial government agencies may provide financial assistance for municipal airport development. Contributions may also be made by local industries or other private parties toward the municipality's share of the cost of airport development. Municipalities considering airport development should pursue all potential sources of funding.

MARCH 1989

PUBLICLY OWNED AIRPORTS IN ONTARIO

A. TRANSPORT CANADA'S INVOLVEMENT IN AIRPORTS IN ONTARIO

1. Transport Canada Owned and Operated (13)

*Earlton	Muskoka	*Sault Ste. Marie	*Toronto/LBPI
*Gore Bay	*North Bay	*Thunder Bay	Wiarton
*Kapuskasing	*Ottawa	*Timmins	*Windsor
*London			

2. Transport Canada Owned and Operated under Contract Management (3)

*Kenora *Red Lake *Sarnia

3. Transport Canada Owned, Leased and Subsidized (3)

*Dryden *Hamilton *Sudbury

4. Transport Canada Owned and Leased but not Subsidized (6)

Carp	*Oshawa	Emsdale
Gananoque	St. Catharines	Killaloe

5. Owned and Operated by Others, Transport Canada Subsidized (4)

*Fort Frances *Moosonee *Pembroke *Toronto Island

B. AIRPORTS FUNDED BY THE PROVINCE

1. Airports Operated by MTO - Remote Airports: (21)

Armstrong	*Deer Lake	*Kashechewan	*Pickle Lake
*Attawapiskat	*Fort Albany	*Lansdowne House	*Pikangikum
*Bearskin Lake	*Fort Hope	*Muskrat Dam	*Round Lake
*Big Trout Lake	*Fort Severn	*Ogoki	*Sachigo
*Cat Lake	*Kasabonika	*Peawanuck	*Sandy Lake
			*Webequie

2. Municipal Airports Eligible for MTO Subsidy (47)

Arnprior	Haliburton Hlnds	*Marathon	Thessalon
*Atikokan	*Hearst	Midland	Tillsonburg
Brantford	*Hornepayne	*Nakina	Tobermory
*Brockville	Ignace	Parry Sound	*Trenton
*Chapleau	Iroquois	*Pelee Island	Vermilion Bay
Chatham	Iroquois Falls	*Peterborough	Waterloo/Guelph
*Cochrane	Killarney	Port Elgin	*Wawa
Collingwood	Kincardine	St. Thomas	Welland
*Cornwall	*Kingston	*Sioux Lookout	
Ear Falls	*Kirkland Lake	Smiths Falls	
*Elliot Lake	Lindsay	South River	
*Geraldton	*Manitoulin East	Stratford	
Goderich	*Manitouwadge	*Terrace Bay	

C. PROVINCIAL AGENCY AIRPORTS (2)

Centralia Morrisburg

D. SUMMARY

Ownership	Total Number of Airports	*Airports with Scheduled Service
Federal (TC)	25	18
Provincial	23	20
Municipal/Others	51	25
Total	99	63

* Land Based Airports with regularly scheduled passenger service